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EXAMINER

LE, NINH V

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/554,197	Applicant(s) SAITO ET AL.	
	Examiner Ninh V. Le	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/24/05,9/4/07,3/11/08,3/11/09.

DETAILED ACTION

This action is in response to the amendment to the claims that is mailed on the 1/29/09.

Specification

Objection to the disclosure of the abstract has been withdrawn due to applicant's amendment.

Claim Rejections - 35 USC § 112

Rejection to claim 16 has been withdrawn due to applicant's amendment.

Claim Objections

Claims 11-12 are objected to because of the following informalities:

On line 6 claim 11, "product,;" should be – product; -- to make the claim clearer.

On line 5 claim 12, "other,;" should be – other; -- to make the claim clearer.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In line 8-9 in claim 2, "injecting the resin material into the resin pit until the resin material fills all of the plurality of product cavities" is not supported by the disclosure, whereas the specification discloses "supplying the resin material to the resin pit and filling the resin material into all of the plurality of product cavities" (page 4 line 30 and page 5 line 1-2) and "a predetermined amount of the resin material is retained in the resin pit 28 when the product (spectacle lens) is molded" (page 16 line 13-15).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 11 recites the limitation "the resin pit" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 11-14,18, the word "means" is preceded by the word(s) "control" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,3-10,19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Noshimoto '360) in view of

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Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record).

Regarding claim 1, Noshimoto '360 discloses a molding method in which a resin material in a molten state is injected from an injection apparatus (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]), filled into a cavity of a mold (Figure 10 cavity (Numbering element 3)), and cooled down to obtain a product in a predetermined shape (Figures 15-17), the method comprising:
preparing a mold having a product cavity to mold the a product, a dummy cavity to mold a dummy product, and a runner by which the product cavity and the dummy cavity are connected (Figures 2 and 16, runner (Numbering element 49); note: dummy and product cavities are represented by Numbering element 3);
injecting a resin material in a molten state into the product cavity via an injection apparatus;
injecting the resin material in a molten state into at least part of the dummy cavity (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]);

However, Noshimoto '360 failed to teach a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the dummy cavity at predetermined timing.

In an analogous art, Sato '938 discloses in regard to claim 1, a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material

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in the dummy cavity at predetermined timing (molding material is supplied...to the cavity
4...At this time, with the high-frequency power from the ultrasonic wave oscillator 10,
the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawings 1 and 2,
Pages 5-6 Paragraph [0024]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360 with that of Sato '938 to obtain the invention as stated in claim 1; and to combine the molding method in which a molten resin is injected from an injection apparatus and filled into a cavity of a mold and cooled to obtain a product as disclosed by Noshimoto '360 with the use of an ultrasonic vibration to the resin material as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claim 3, Noshimoto '360 and Sato '938 discloses wherein the predetermined timing is after start of supply of the resin material to at least part of the dummy cavity or the resin pit and while the resin material in the runner has a predetermined viscosity (as stated in the aforementioned rejection in claim 1).

Note, resin material inherently has a viscosity.

Regarding claim 4, Noshimoto '360 discloses wherein the resin material is filled into the product cavity and compressed (molten resin...filled into the cavity and volume of the cavity is reduced, Figure 10, Abstract), note: also see Page 7 Paragraph [0107]).

However, **Noshimoto '360 failed to teach** the ultrasonic is applied while a compressed state is maintained.

In an analogous art, Sato '938 discloses in regard to claim 4, the ultrasonic is applied while a compressed state is maintained (molding material is supplied...to the cavity 4...At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the ultrasonic vibrator 8 is vibrated...of the whole metallic mold, Drawings 1 and 2, Pages 5-6 Paragraph [0024]); Note: Drawings 1 and 2 shows the movable die (Numbering element 3) and fixed mold (Numbering element 2) in a compressed state).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360 with that of Sato '938 to obtain the invention as stated in claim 4; and to combine the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed as disclosed by Noshimoto '360 with the use of an ultrasonic vibration while in a compressed state as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), prevent gradual cooling of a resin during molding (Sato '938, Abstract), and maximizing the packing density of the solidified resin material.

Regarding claim 5, Noshimoto '360 and Sato '938 discloses wherein the ultrasonic vibration is applied so that an amount of the resin material (as stated in the aforementioned rejection in claim 1).

Noshimoto '360 discloses the claimed invention except for an amount of the resin material flowing into the product cavity from the dummy cavity and air gaps other than

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the product cavity is in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity, however it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the resin material flowing into the product cavity from the dummy cavity and air gaps other than the product cavity in a range of 0.1% by volume to 5% by volume of the resin material filled into the product cavity for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 6, Noshimoto '360 discloses a gate in communication with the product cavity is sealed (insert 11 descends toward the insert 12...Simultaneously, the gate shut pin 111 protrudes into the gate G to gradually close the opening of the gate G, Figures 1 and 12, Page 7 Paragraph [0109]; note: gate shut pin (Numbering element 111) is synchronized with the movement of the insert (Numbering element 11 (Page 8 Paragraph [0117]) and also see abstract).

However, **Noshimoto '360 failed to teach** wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started.

In an analogous art, Sato '938 discloses in regard to claim 6, wherein the ultrasonic vibration is applied immediately after the filling of the resin material is started (molding material is supplied...to the cavity 4...At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the **ultrasonic vibrator 8 is vibrated...of the whole metallic mold**, Drawings 1 and 2, Pages 5-6 Paragraph [0024]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360 with that of Sato '938 to obtain the invention as stated in claim 6; and to combine the molding method in which a molten resin is injected from an injection apparatus and filled into the product cavity and compressed as disclosed by Noshimoto '360 with the use of an ultrasonic vibration while in a compressed state as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 7 and 19, Noshimoto '360 discloses wherein a nozzle of a molding machine to supply the resin material to the mold is closed immediately after the filling of the resin material is completed (injection nozzle 85 is closed...after completion of injecting and filling the molten resin, Figure 10, Page 7 Paragraph [0107]) and wherein the resin is injected from the injection apparatus (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]) into the runner, and from the runner into the dummy mold and the product mold (Figures 2 and 10, runner (Numbering element 49); note: dummy and product cavities are represented by Numbering element 3).

Regarding claims 8-10, Noshimoto '360 discloses wherein the product is an optical lens and wherein the optical lens is a spectacle lens (Figure 17), and the method further comprises a step of subjecting the obtained spectacle lens to a surface

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treatment (lens 102 of the molding 101 is immersed in hardwearing hard coating fluid, Page 7 Paragraph [0115]; note: molding (Numbering element 101) has two spectacle lenses (Numbering element 102) (Page 7 Paragraph [0114])).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Noshimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record).

Regarding claim 2, Noshimoto '360 discloses a molding method in which a resin material in a molten state is injected from an injection apparatus (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]), filled into a cavity of a mold (Figure 10 cavity (Numbering element 3)), and cooled down to mold a product in a predetermined shape (Figures 15-17), the method comprising: preparing a mold having a plurality of product cavities to mold products, a runner by which the product cavities are connected to each other, and a resin pit located at a halfway part of the runner (Figures 2 and 10, runner (Numbering element 49) cavities (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10); injecting the resin material into the resin pit until the resin material fills all of the plurality of product cavities (Figure 10); and

However, Noshimoto '360 failed to teach a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the resin pit at predetermined timing.

In an analogous art, Sato '938 discloses in regard to claim 2, a molding method using ultrasonic vibration and applying ultrasonic vibration to the resin material in the resin pit at predetermined timing (molding material is supplied...to the cavity 4...At this time, with the high-frequency power from the ultrasonic wave oscillator 10, the ultrasonic vibrator 8 is vibrated...of the whole metallic mold, Drawing 1 and 2, Pages 5-6 Paragraph [0024]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360 with that of Sato '938 to obtain the invention as stated in claim 2; and to combine the molding method in which a molten resin is injected from an injection apparatus and filled into a cavity of a mold and cooled to obtain a product as disclosed by Noshimoto '360 with the use of an ultrasonic vibration to the resin material as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Claims 11,13-17,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Noshimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record). Examiner wishes to point out to applicant that claims 11,13-17,20 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the processes of using the apparatus are viewed as recitation of intended use and are given little patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

Regarding claims 11,13-14,20 Noshimoto '360 discloses a molding machine in which a resin material is injected from an injection apparatus (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]), filled into a cavity formed in a mold (Figures 2 and 10, molding die (Numbering element 50) cavity (Numbering element 3)), and compressed to mold a product in a predetermined shape, the molding machine comprising:

a mold having a product cavity (Figures 2 and 10, cavity (Numbering element 3)) for molding a product;

an injection apparatus for injecting a resin material into said mold (Figure 1, injection apparatus (Numbering element 80) molding die (Numbering element 50));

a dummy cavity for molding a dummy product (Figures 2 and 10, cavity (Numbering element 3)) for molding a product,;

a runner connecting the product cavity and the dummy cavity (Figures 2 and 10, runner

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(Numbering element 49); note: dummy and product cavities are represented by Numbering element 3));

and supply of the resin material to at least part of the dummy cavity or the resin pit and while the resin material in the runner has a predetermined viscosity (Figures 2 and 10, runner (Numbering element 49) cavity (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10); the resin material is filled into the product cavity (Figures 2 and 10, cavity (Numbering element 3)) and compressed and a fixed mold and a moveable mold, wherein both the dummy cavity and the product cavity are located in the same one of the fixed mold and the moveable mold (upper mold (movable mold) 1 and a lower mold (stationary mold) 2, Figure 2, Page 5 Paragraph [0074]; note: dummy and product cavities are represented by Numbering element 3).

However, Noshimoto '360 failed to teach ultrasonic wave application means for applying ultrasonic vibration to resin material in the dummy cavity; and control means for controlling application timing of the ultrasonic vibration by the ultrasonic wave application means and wherein timing when the control means applies the ultrasonic vibration is after start of supply of resin material and wherein the timing when the control means applies the ultrasonic vibration is while a compressed state is maintained and the ultrasonic wave application means is located in the other of the fixed mold and the moveable mold, such that when the fixed mold and the moveable mold are connected, a

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portion of the ultrasonic wave application means is able to contact resin the dummy cavity.

In an analogous art, Sato '938 discloses in regard to claims 11,13-14,20, ultrasonic wave application means (please see below) for applying ultrasonic vibration to resin material in the dummy cavity (Drawing 3, cavity (Numbering element 4)); and control means (please see below) for controlling application timing of the ultrasonic vibration by the ultrasonic wave application means and wherein timing when the control means (please see below) applies the ultrasonic vibration is after start of supply of resin material and wherein the timing when the control means (please see below) applies the ultrasonic vibration is while a compressed state is maintained and the ultrasonic wave application means (please see below) is located in the other of the fixed mold and the moveable mold (Drawing 3, fix mold (Numbering element 2); note: the ultrasonic wave oscillator (Numbering element 10) of drawings 1-2 are the same as in drawing 1 (Page 6 Paragraph [0030] and Page 7 Paragraph [0032]), therefore their location with respect to the ultrasonic vibrator are the same as well), such that when the fixed mold and the moveable mold are connected (Drawing 3, fix mold (Numbering element 2) moveable die (Numbering element 3)), a portion of the ultrasonic wave application means (please see below) is able to contact resin the dummy cavity (Drawing 3, cavity (Numbering element 4)).

Examiner noted that applicant **properly invoked means-plus-function** 112th, sixth paragraph in claims 11 and 20 for **ultrasonic wave application means**. Thus, Page 12 Line 20-22 of **applicant's specification identifies** this means as "ultrasonic oscillator

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(not shown) which applies the ultrasonic vibration to the resin material in the dummy cavity 18". With respect to this limitation, **Sato '938 discloses** "High-frequency power is supplied to the ultrasonic vibrator 82 from the ultrasonic wave oscillator 10" (Drawing 3 cavity (Numbering element 4), Page 7 Paragraph [0033]).

With respect to **control means** in claims 11,13-14, Examiner noted that applicant **improperly invoked means-plus-function** 112th, sixth paragraph where the applicant failed to disclose an adequate structure for the timer as indicated on Page 13 Line 15-19. Therefore, the broadest most reasonable interpretation will be given as previously stated. In that respect, **Sato '938 discloses** "a timer which incorporated the signal...from the ultrasonic wave oscillator" on Page 7 Paragraph [0032].

Note, it is Examiner's position to give little weight to the material worked on or the process of using the apparatus as stated in claims 11,13-14,20.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360 with that of Sato '938 to obtain the invention as stated in claims 11,13-14,20; and to combine the molding machine as disclosed by Noshimoto '360 with the use of an ultrasonic oscillator and timer as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 15-17, Noshimoto '360 discloses wherein the mold has a sprue in communication with the runner and wherein a resin pit is located at a midpoint

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of the runner (Figures 2 and 10, molding die (Numbering element 50) sprue (Numbering element 48) runner (Numbering element 49) note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10); and wherein the product is an optical lens (Figure 17).

Claims 12,18,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimoto US Patent 2002/0036360A1 (hereinafter Noshimoto '360) in view of Sato Atsushi Japanese Publication JP11-262938 (hereinafter Sato '938) (already of record). Examiner wishes to point out to applicant that claims 12,18,21 are directed towards an apparatus and as such will be examined under such conditions. The material worked upon or the processes of using the apparatus are viewed as recitation of intended use and are given little patentable weight (Please see MPEP 2114 R1-2115 R2 for further details).

Regarding claims 12 and 18, Noshimoto '360 discloses a molding machine in which a resin material is injected from an injection apparatus (injection apparatus 80 as an injection means for measuring the molten resin...to inject into and fill the injection molding die 50, Figures 1 and 10, Page 4 Paragraph [0068]) into a cavity formed in a mold (Figures 2 and 10, molding die (Numbering element 50) cavity (Numbering element 3)) and compressed to mold a product in a predetermined shape, the molding machine being comprising:

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a mold having a plurality of product cavities (Figures 2 and 10, cavity (Numbering element 3)) for molding products;

a runner connecting the product cavities to each other (Figures 2 and 10, runner (Numbering element 49) cavity (Numbering element 3));

a resin pit located at a halfway part of the runner (Figures 2 and 10, runner (Numbering element 49) cavity (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10);

an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner; resin material in

the resin pit; and the dummy cavity or the resin pit and while the resin material in the runner has a predetermined viscosity (Figures 1 and 10, injection apparatus (Numbering element 80) runner (Numbering element 49); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10. Also note that dummy and product cavities are represented by Numbering element 3).

However, Noshimoto '360 failed to teach an ultrasonic wave application means for applying ultrasonic vibration and wherein timing when the control means applies the ultrasonic vibration is after start of supply of the resin material.

In an analogous art, Sato '938 discloses in regard to claims 12 and 18, an ultrasonic wave application means for applying ultrasonic vibration and wherein timing when the control means applies the ultrasonic vibration is after start of supply of the resin material.

Examiner noted that applicant properly invoked means-plus-function 112th, sixth paragraph in claim 12 for **ultrasonic wave application means**. Thus, Page 12 Line 20-22 of applicant's specification identifies this means as "ultrasonic oscillator (not shown) which applies the ultrasonic vibration to the resin material in the dummy cavity 18". With respect to this limitation, Sato '938 discloses "High-frequency power is supplied to the ultrasonic vibrator 82 from the ultrasonic wave oscillator 10" (Drawing 3 cavity (Numbering element 4), Page 7 Paragraph [0033]).

With respect to **control means** in claims 12 and 18, Examiner noted that applicant improperly invoked means-plus-function 112th, sixth paragraph where the applicant failed to disclose an adequate structure for the timer as indicated on Page 13 Line 15-19. Therefore, the broadest most reasonable interpretation will be given as previously stated. In that respect, **Sato '938 discloses** "a timer which incorporated the signal...from the ultrasonic wave oscillator" on Page 7 Paragraph [0032].

Note, it is Examiner's position to give little weight to the material worked on or the process of using the apparatus as stated in claims 12 and 18.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching Noshimoto '360

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with that of Sato '938 to obtain the invention as stated in claims 12 and 18; and to combine the molding machine as disclosed by Noshimoto '360 with the use of an ultrasonic oscillator and timer as disclosed by Sato '938 for the benefit of shortening the molding cycle, eliminate transfer unevenness (Sato '938, Page 9 Paragraph [0043]), and prevent gradual cooling of a resin during molding (Sato '938, Abstract).

Regarding claims 21, Noshimoto '360 discloses wherein a resin-holding capacity of the resin pit relative to each of the product cavities (Figures 2 and 10, cavity (Numbering element 3); note: resin pit is represented by the portion below the eject pin (Numbering element 35 and above the point where the sprue (Numbering element 48) and runner (Numbering element 49) intersects as shown in Figure 10) is between 10% and 40%.

Note, it is Examiner's position to give little weight to the material worked on or the process of using the apparatus as stated in claim 21.

Response to Argument

Applicant's argument with respect to claims 1-18 have been considered.

Regarding claims 1-4, applicant argued that the rejection under 35 USC § 102(b) as allegedly taught by Libres was inadequate.

The Examiner agrees and withdrew previous rejection ground. New grounds of rejection have been applied.

Regarding claims 5-10, applicant argued that the rejection under 35 USC § 103(a) as allegedly taught by Libres and Nishimoto was inadequate. In addition, applicant claim that Nishimoto failed to disclose injecting the resin material in a molten state to at least part of a dummy cavity.

The Examiner agrees that the rejection under 35 USC § 103(a) over Libres and Nishimoto was inadequate and withdrew previous rejection ground. New grounds of rejection have been applied. With regard to applicant's claim that Nishimoto failed to disclose injecting the resin material in a molten state to at least part of a dummy cavity, the Examiner find this to be moot and support for this feature can be found within the new grounds of rejection.

Regarding claims 11-16 and 18, applicant argued that the rejection under 35 USC § 103(a) as allegedly taught by Libres and Sato was inappropriate. In addition, applicant claim that Libres failed to disclose a dummy cavity for molding a dummy product as recited in claim 11 and that Libres and Sato failed teach a dummy cavity for receiving ultrasonic waves. Furthermore, applicant argued that Libres nor Sato failed to disclose in regard to claim 12 "an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner".

The Examiner agrees that the rejection under 35 USC § 103(a) over Libres and Sato was inadequate and withdrew previous rejection ground. New grounds of rejection have been applied. With regard to applicant's claim that Sato failed teach a dummy cavity for receiving ultrasonic waves, the Examiner find this to be moot and support for this feature can be found within the new grounds of rejection. In addition the

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Examiner find that applicant's argument that Libres nor Sato failed to disclose in regard to claim 12 "an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner" to be moot since such claim was not part of the original amended claim filed on 10/24/05, but rather is part of the amended claims filed on 1/29/09 which is after the non-final office action dated 10/28/08.

Regarding claim 17, applicant argued that the rejection under 35 USC § 103(a) as allegedly taught by Libres, Nishimoto, and Sato was inadequate.

The Examiner agrees. Since rejection ground of independent claim 11 was improper as previously stated, from which claim 17 depends on, then the rejection under 35 USC § 103(a) over Libres, Nishimoto, and Sato was inadequate. Therefore, previous rejection grounds have been withdrawn. New grounds of rejection have been applied.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lemelson US Patent 5360329, Yakeya Noriaki Japanese Patent Publication JP58140222A, and Choi et al. US Patent 6450798B1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ninh V. Le whose telephone number is (571)270-3828. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571)272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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NVL

/Joseph S. Del Sole/
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